CLAIMS

What is claimed is:

1. A method for setting a value within a type of service field in an Internet Protocol (IP) datagram in accordance with an application level protocol at which said IP datagram is transported within a socks connection from a source application that resides within a source device to a destination application that resides within a destination device, said method comprising the steps of:

Sub A1

determining a source device address of said source device;

determining a destination device address of said destination device;

determining a source application level protocol for said source device application;

determining a destination application level protocol for said destination application;

determining a type of service value from a first table, wherein for said socks connection said first table includes:

said determined source device address;

said determined destination device address;

said determined source application level protocol; and

said determined destination application level protocol; and

writing said determined type of service value into said type of service field of said IP datagram.

2. The method of claim 1, wherein said IP datagram comprises an IP header that includes a source IP address field and a destination IP address field, said IP datagram further comprising a source port field and a destination port field, said method further comprising the steps of:

Sub A1

determining said source device address by reading said source device address from said source IP address field;

determining said destination device address by reading said destination device address from said destination IP address field;

determining said source application level protocol by reading a source application address from said source port field;

determining said destination application level protocol by reading a destination application address from said destination port field.

3. The method of claim 1, wherein said IP datagram comprises a header checksum field, and wherein said step of writing said type of service value in said type of service field further comprises the steps of:

Sub A1

computing a value of a header checksum for said IP datagram according to said type of service value; and

writing said computed value into said header checksum field.

4. The method of claim 1, wherein said step of determining a type of service value is preceded by the steps of:

determining whether or not said IP datagram is a connect message for establishing a new socks connection;

in response to determining that said IP datagram is a connect message:

updating said first table in accordance with said new socks connection utilizing said source device address, said destination device address, said source application level protocol, and said destination application level protocol;

determining said application level protocol from said IP datagram;

determining a type of service value for said connect message utilizing a type of service value in

a second table, wherein said second table includes a type of service value for said application level protocol; and

associating said socks connection with said type of service value within said first table.

5. The method of claim 4, further comprising the steps of:

configuring said second table; and

defining a default type of service value for application level protocols that are not defined in said second table.

6. The method of claim 5, wherein said step of configuring said second table further comprises the step of retrieving said second table from a server system within a network.

7. The method of claim 6, wherein said step of configuring said second table further comprises the step of retrieving updates of said second table from said server system within said network.

8. The method of claim 5, wherein said step of configuring said second table further comprises the step of delivering said second table from a server system within a network.

9. The method of claim 8, wherein said step of configuring said second table further comprises the step of delivering updates of said second table from said server system within said network.

10. The method of claim 5, wherein said step of configuring said second table further comprises the step of locally storing said second table and updates of said second table within said source device.

11. A system for setting a value within a type of service field in an Internet Protocol (IP) datagram in accordance with an application level protocol at which said IP datagram is transported within a socks connection from a source application that resides within a source device to a destination application that resides within a destination device, said system comprising:

processing means for determining a source device address of said source device;

processing means for determining a destination device address of said destination device;

processing means for determining a source application level protocol for said source device application;

processing means for determining a destination application level protocol for said destination application;

processing means for determining a type of service value from a first table, wherein for said socks connection said first table includes:

said determined source device address;

said determined destination device address;

said determined source application level protocol; and

said determined destination application level protocol; and

processing means for writing said determined type of service value into said type of service field of said IP datagram.

12. The system of claim 11, wherein said IP datagram comprises an IP header that includes a source IP address field and a destination IP address field, said IP datagram further comprising a source port field and a destination port field, said system further comprising:

processing means for determining said source device address by reading said source device address from said source IP address field;

processing means for determining said destination device address by reading said destination device address from said destination IP address field;

processing means for determining said source application level protocol utilizing a source application address from said source port field;

processing means for determining said destination application level protocol utilizing a destination application address from said destination port field.

13. The system of claim 11, wherein said IP datagram comprises a header checksum field, and wherein said processing means for writing said type of service value

into said type of service field further comprises:

processing means for computing a value of a header checksum for said IP datagram according to said type of service value; and

processing means for writing said computed value into said header checksum field.

14. The system of claim 11, wherein said processing means for determining a type of service value further comprises:

processing means for determining whether or not said IP datagram is a connect message for establishing a new socks connection;

processing means for, in response to determining that said IP datagram is a connect message:

updating said first table in accordance with said new socks connection utilizing said source device address, said destination device address, said source application level protocol, and said destination application level protocol;

determining said application level protocol from said IP datagram;

determining a type of service value for said connect message utilizing a type of service value in a second table, wherein said second table includes a

type of service value for said application level protocol; and

associating said socks connection with said type of service value within said first table.

15. The system of claim 14, further comprising:

processing means for configuring said second table; and

processing means for defining a default type of service value for application level protocols that are not defined in said second table.

16. The system of claim 15, wherein said processing means for configuring said second table further comprises processing means for retrieving said second table from a server system within a network.

17. The system of claim 16, wherein said processing means for configuring said second table further comprises processing means for retrieving updates of said second table from said server system within said network.

18. The system of claim 15, wherein said processing means for configuring said second table further comprises processing means for delivering said second table from a server system within a network.

19. The system of claim 18, wherein said processing means for configuring said second table further comprises processing means for delivering updates of said second

table from said server system within said network.

20. The system of claim 15, wherein said processing means for configuring said second table further comprises processing means for locally storing said second table and updates of said second table within said source device.

21. A computer program product for setting a value within a type of service field in an Internet Protocol (IP) datagram in accordance with an application level protocol at which said IP datagram is transported within a socks connection from a source application that resides within a source device to a destination application that resides within a destination device, said computer program product comprising:

instruction means for determining a source device address of said source device;

instruction means for determining a destination device address of said destination device;

instruction means for determining a source application level protocol for said source device application;

instruction means for determining a destination application level protocol for said destination application;

instruction means for determining a type of service value from a first table, wherein for said socks connection said first table includes:

said determined source device address;

said determined destination device address;

said determined source application level

protocol; and

said determined destination application level protocol; and

instruction means for writing said determined type of service value into said type of service field of said IP datagram.

22. The computer program product of claim 21, wherein said IP datagram comprises an IP header that includes a source IP address field and a destination IP address field, said IP datagram further comprising a source port field and a destination port field, said computer program product further comprising:

instruction means for determining said source device address by reading said source device address from said source IP address field;

instruction means for determining said destination device address by reading said destination device address from said destination IP address field;

instruction means for determining said source application level protocol utilizing a source application address from said source port field;

instruction means for determining said destination application level protocol utilizing a destination application address from said destination port field.

23. The computer program product of claim 21, wherein said IP datagram comprises a header checksum field, and wherein said instruction means for writing said type of service value into said type of service field further comprises:

instruction means for computing a value of a header checksum for said IP datagram according to said type of service value; and

instruction means for writing said computed value into said header checksum field.

24. The computer program product of claim 21, wherein said instruction means for determining a type of service value further comprises:

instruction means for determining whether or not said IP datagram is a connect message for establishing a new socks connection;

instruction means for, in response to determining that said IP datagram is a connect message:

updating said first table in accordance with said new socks connection utilizing said source device address, said destination device address, said source application level protocol, and said destination application level protocol;

determining said application level protocol from said IP datagram;

determining a type of service value for said connect message utilizing a type of service value in a second table, wherein said second table includes a type of service value for said application level protocol; and

associating said socks connection with said type of service value within said first table.

25. The computer program product of claim 24, further comprising:

instruction means for configuring said second table; and

instruction means for defining a default type of service value for application level protocols that are not defined in said second table.

26. The computer program product of claim 25, wherein said instruction means for configuring said second table further comprises instruction means for retrieving said second table from a server system within a network.

27. The computer program product of claim 26, wherein said instruction means for configuring said second table further comprises instruction means for retrieving updates of said second table from said server system within said network.

28. The computer program product of claim 25, wherein said instruction means for configuring said second table

further comprises instruction means for delivering said second table from a server system within a network.

29. The computer program product of claim 28, wherein said instruction means for configuring said second table further comprises instruction means for delivering updates of said second table from said server system within said network.

30. The computer program product of claim 25, wherein said instruction means for configuring said second table further comprises instruction means for locally storing said second table and updates of said second table within said source device.